

Navigation & POD Overview

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NAV/PVT

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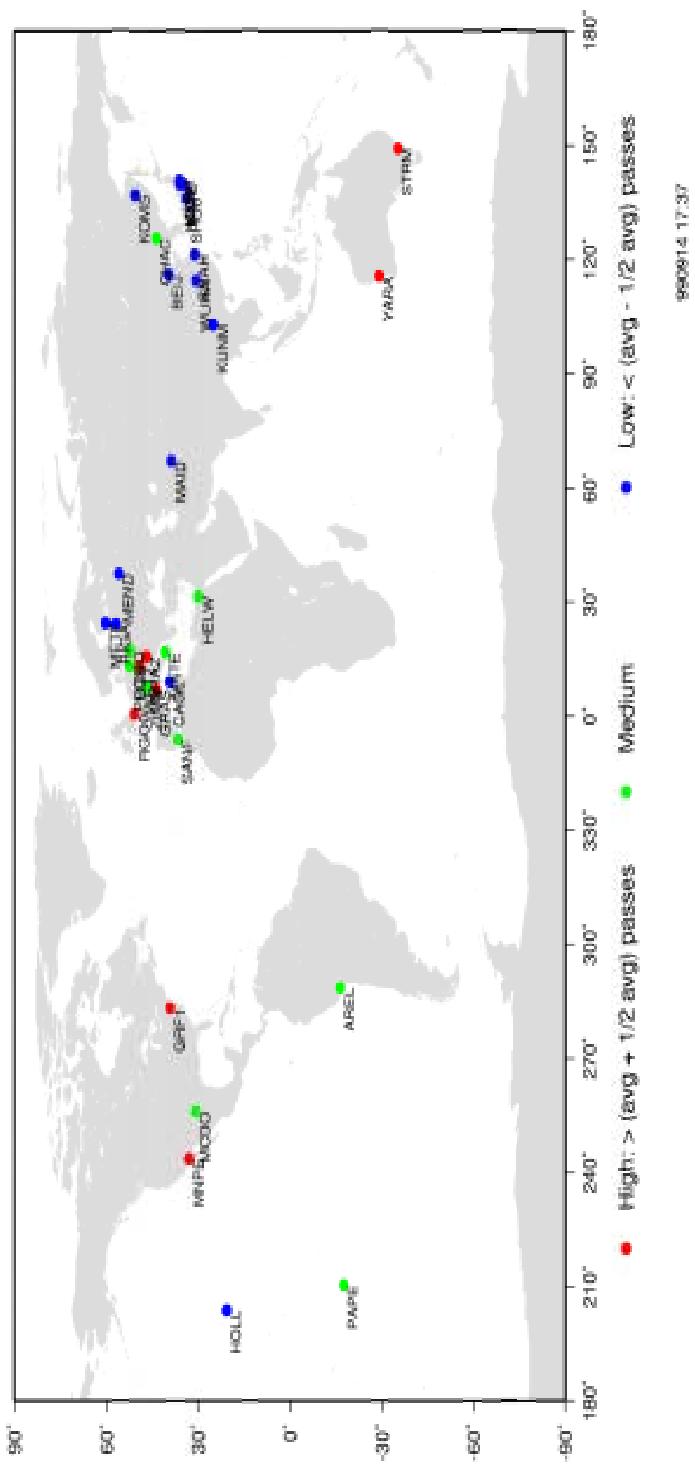
Navigation Status (1)

- Navigation Elements:
 - Operational Orbit Determination
 - Operational Orbit Ephemeris (OOE)
 - Trajectory Products
 - Maneuver Design, Implementation & Performance
- All Requirements have been met

Navigation Status (2)

- Navigation and POD are now one team
- Internal NAV & POD by Raytheon
- External NAV by FDF
- External POD by GSFC, UT, UC
- After training, Raytheon took over in February

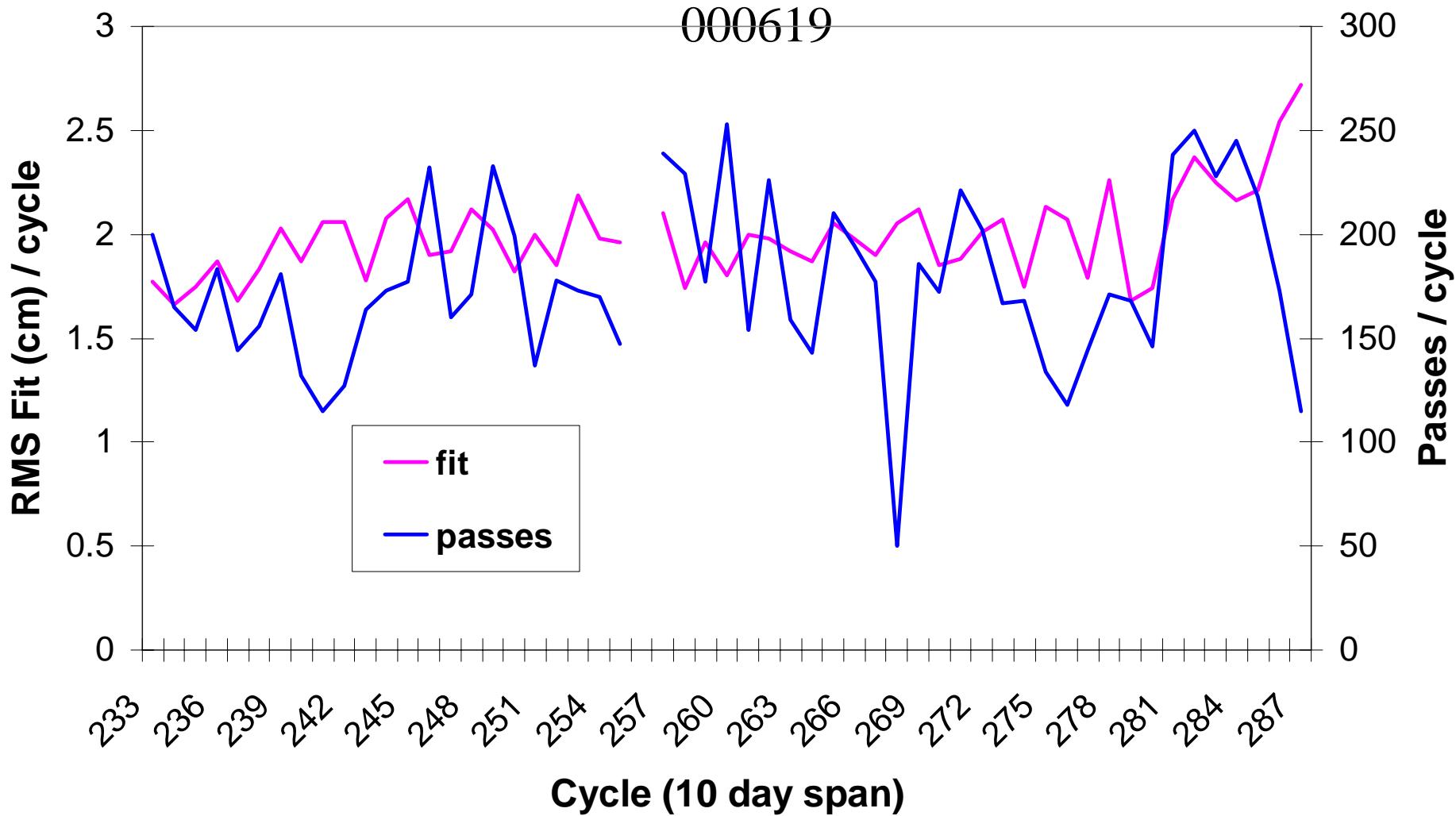
TOPEX/POSEIDON SLR Tracking Network (1999 - 34 Sites)



SLR Tracking Performance

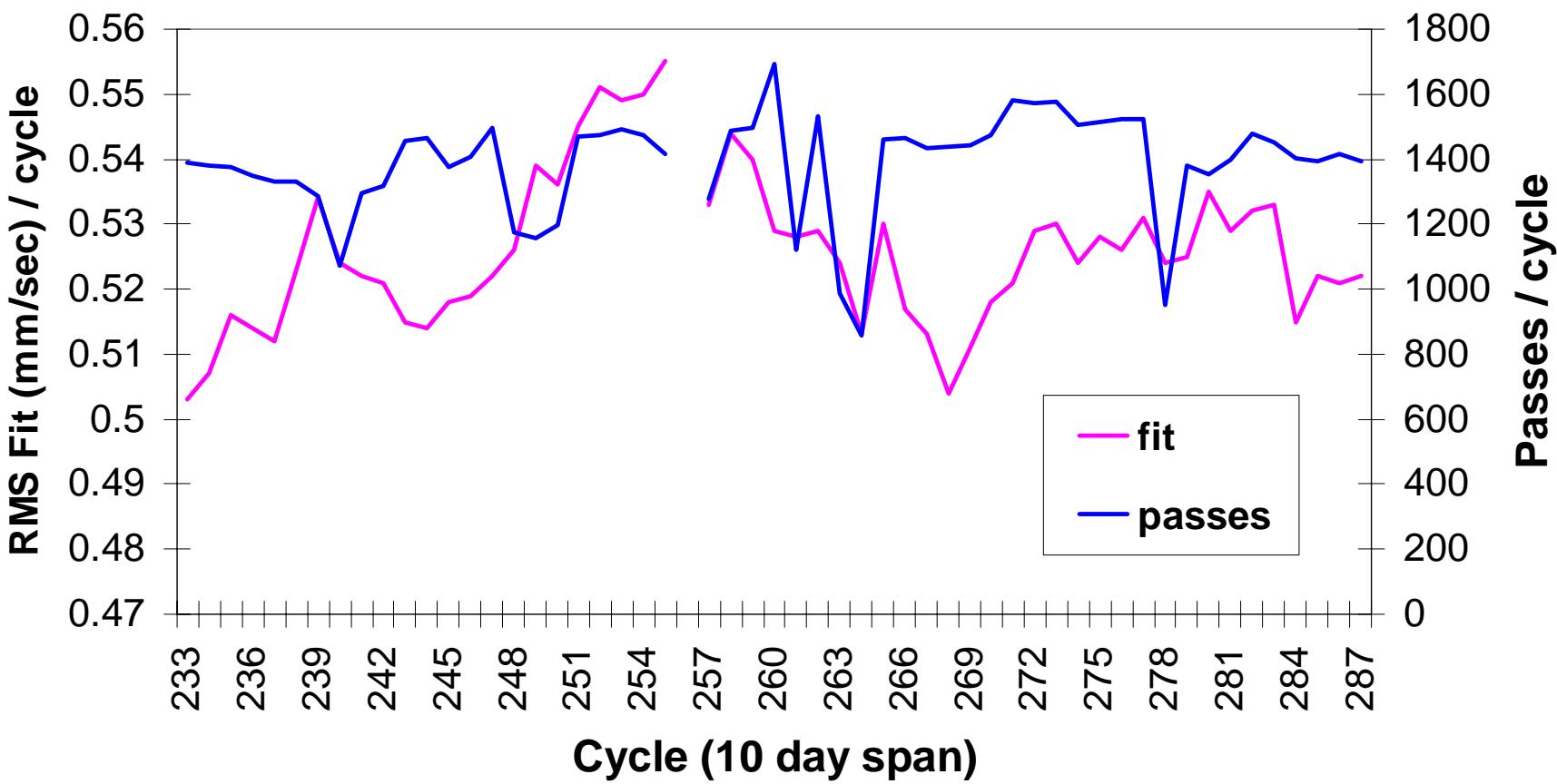
10 day SLR+DORIS solutions 990110 -

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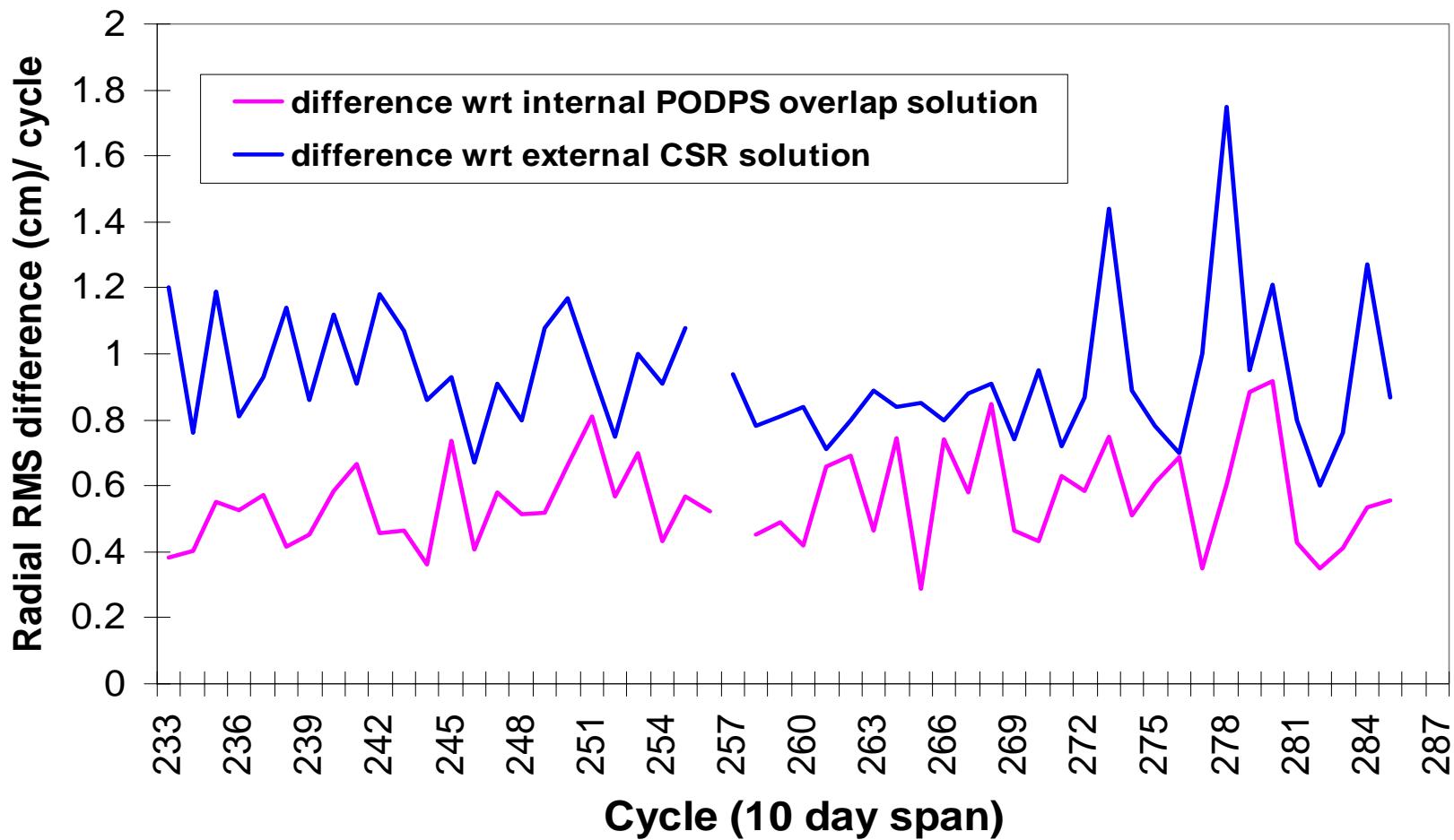
DORIS Tracking Performance

10 day SLR+DORIS solutions 990110 - 000619

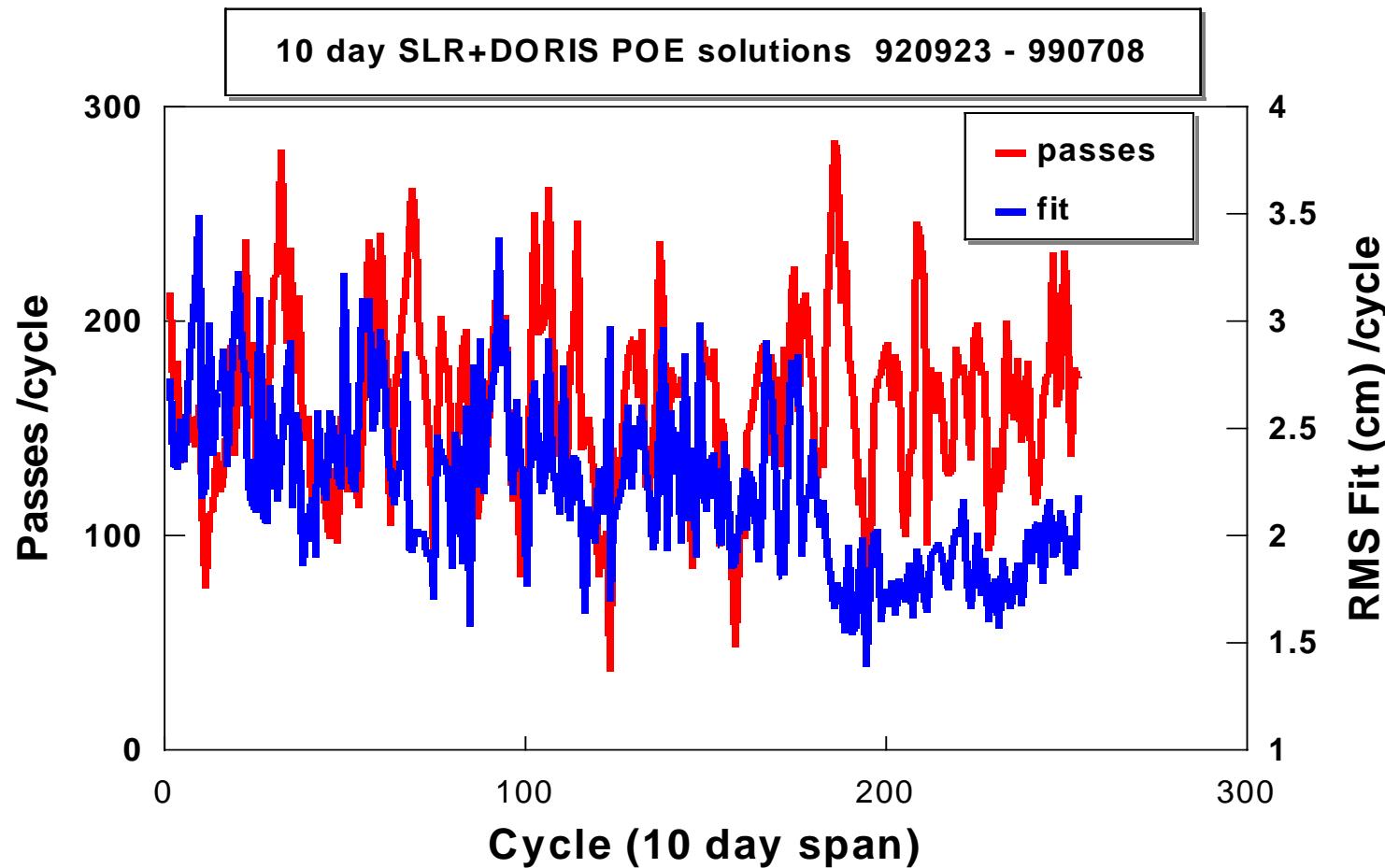


Radial Orbit Consistency

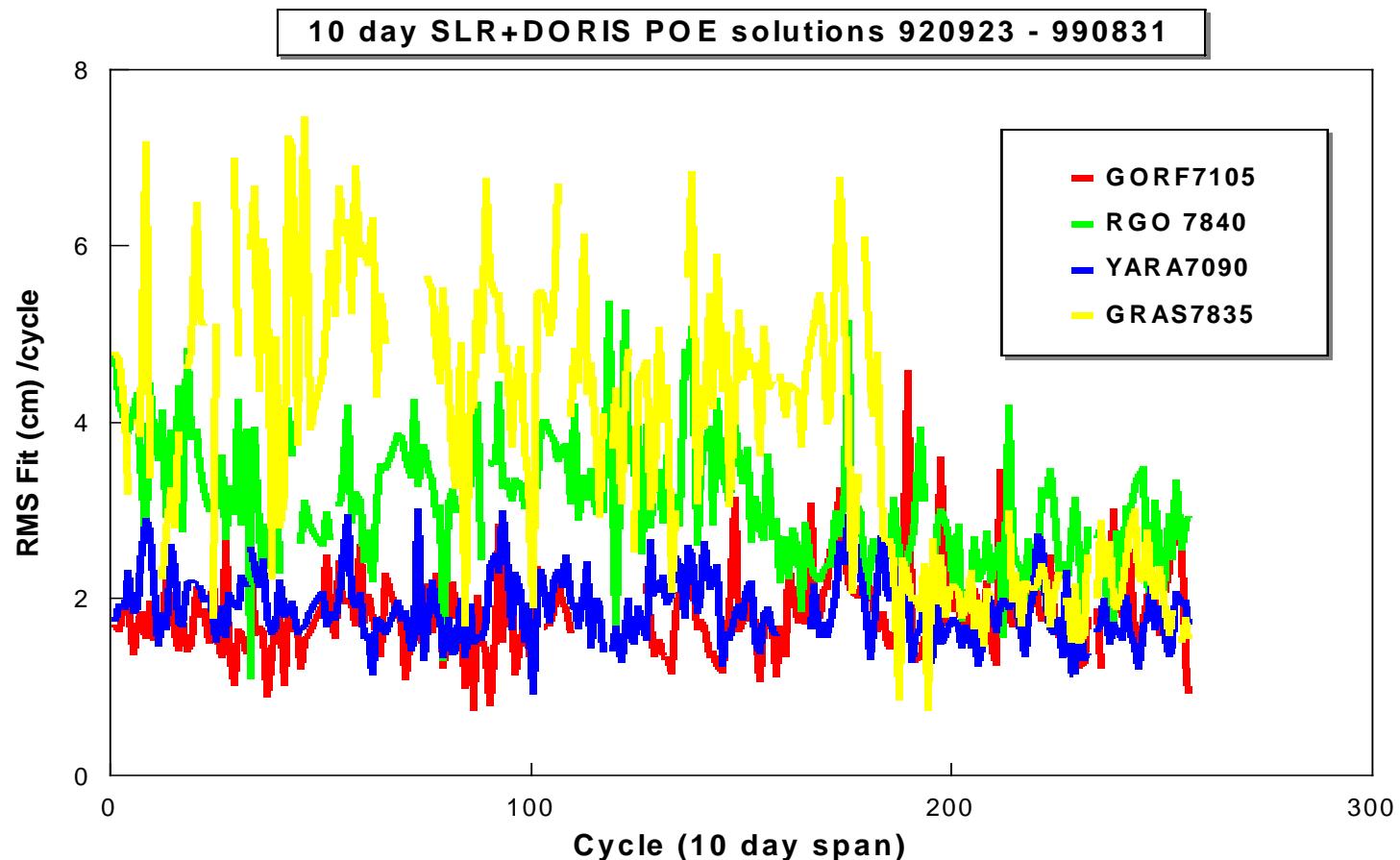
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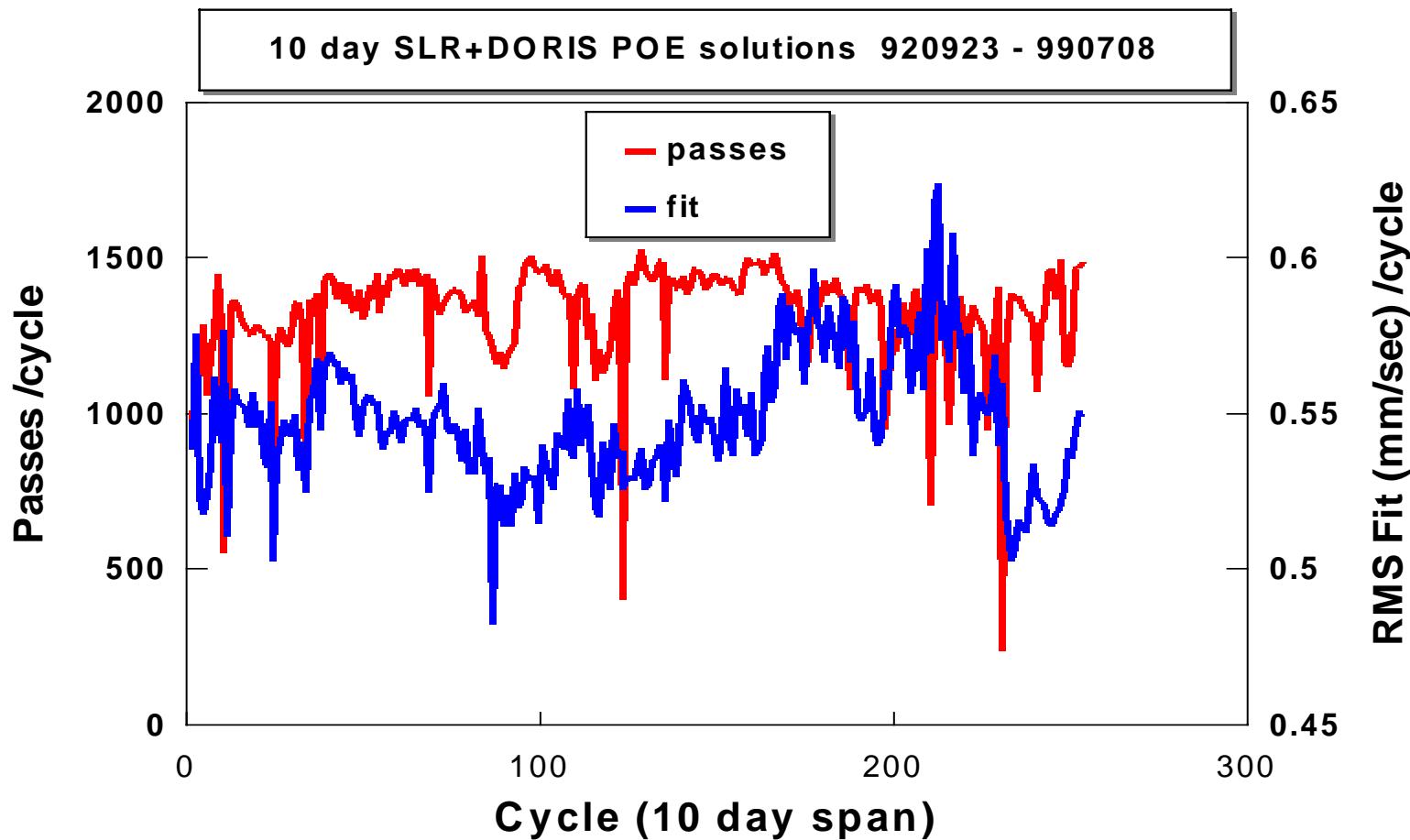
CTD Tracking Performance



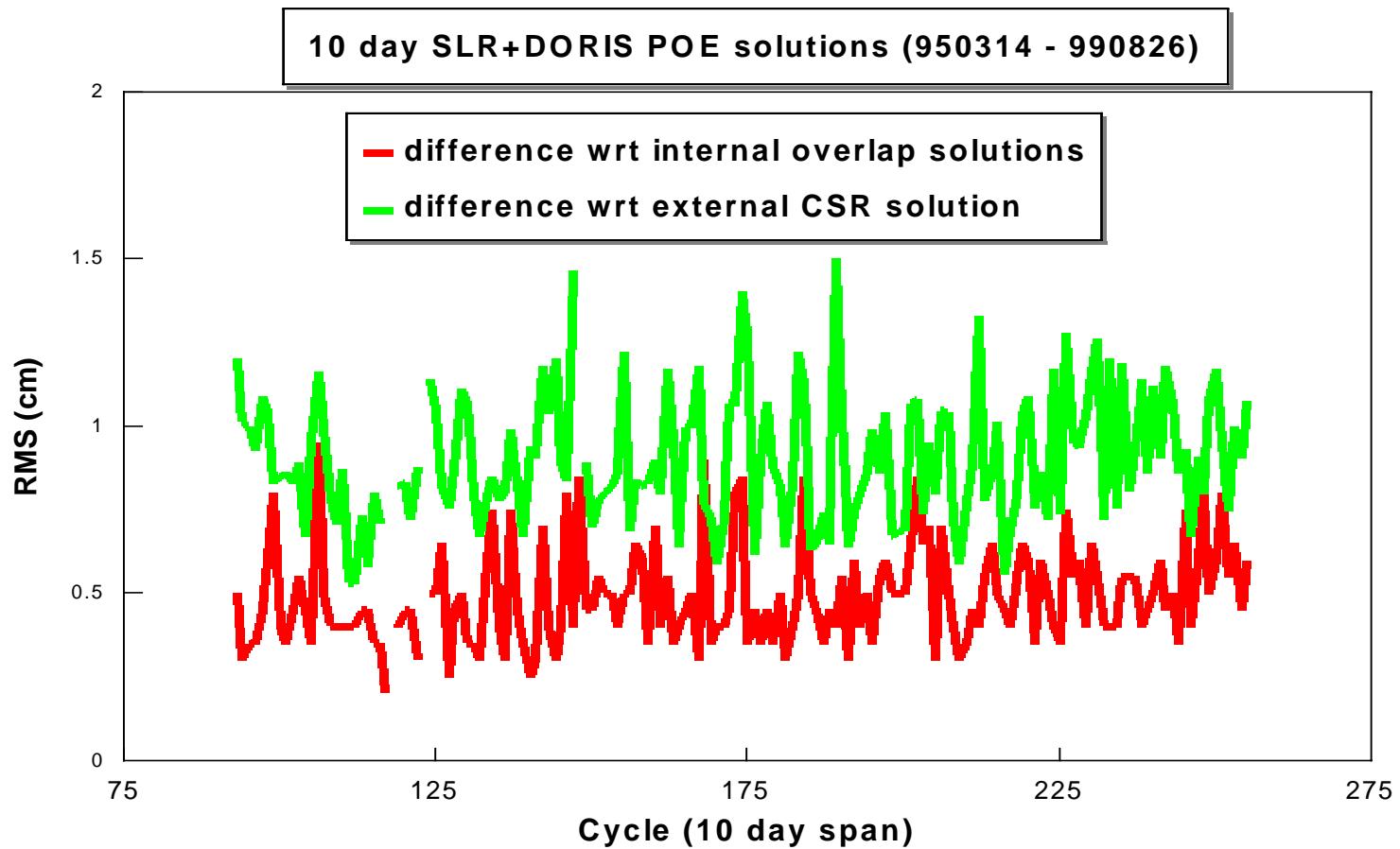
SLR Fit



DORIS Tracking Performance



Radial Orbit Consistency



Recent Off-Nominal Events

Cycle	Event	PODPS Action
230 (981211)	DORIS receiver disabled	Cycle 230 POE based on SLR tracking and telemetered attitude data Help calibrate new DORIS receiver with cycle 231 tracking
236 (990209)	Altimeter-A switched to ALT-B	Provide specially computed orbits cycles 237-242, for ALT-B calibration
256 (990826)	Main CPU SEU resulting in 4 days of safehold.	Cycle 256 POE largely based on SLR tracking excluding safehold period.

Y2K Readiness

- Hermite Interpolator Version 5.0 plus Y2K test cases distributed (August '98)
- PODPS Y2K testing completed (July '99)
- Inter-Center test processing Y2K format POE (July '99)
- First Y2K format POE exported with cycle 252 (August '99)

POD Error Budget

Error Source	Current Model	Error (cm)
Static Gravity	JGM-3	1
Radiative Forces	2 nd Gen. Tuned Macro Model	<2
Atmospheric Drag	DTM '87 Density	<1
Tides	Ray '94 Ocean, Wahr '81 Earth	1
Station Position	CSR '95	<1
Other		1
RSS Total		2-3